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(54) **FERRITE-PEARLITE-TYPE NON-HEAT TREATED STEEL**

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a non-heat treated steel having $\approx 500\text{MPa}$ tensile strength, $\approx 250\text{MPa}$ fatigue strength, ≈ 0.50 fatigue limit value, and excellent machinability and suitable for use as a stock for engine parts for compact automobile, etc., particularly crankshaft and connecting rod.

SOLUTION: This steel has a composition consisting of, by

weight, 0.20-0.45% C, 0.05-1.00% Si, 0.20-0.60% Mn, 0.01-0.08% S, 0.02-0.50% V, 0.004-0.03% N, 0-0.05% P, 0-0.30% Cu, 0-0.30% Ni, 0-1.00% Cr, 0-0.30% Mo, 0-0.05% Ti, 0-0.050% Al, 0-0.30% Pb, 0-0.0100% Ca, 0-0.100% Bi, 0-0.10% Te, and the balance Fe with inevitable impurities and satisfying $fn1 = C + (Si/10) + (Mn/5) + (5Cr/22) + 1.65 V - (58/7) \approx 0.50$ and $[C + (Mn/5) - 5N]/fn1 \leq 0.80$, where the symbol of the element in the inequalities means the content of the element by weight percent.

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